

ABSTRACT

Light (41) is emitted from a light source having a specific wavelength so as to form a line focus on a sensor including a prism (42) and a glass substrate (44). A sample cell and a reference cell are disposed such that their sensing portions lie on the line focus at a predetermined distance, and surface plasmon resonances are generated at the sensing portions to reduce the intensity of the light reflected from the sensing portions. The beams of the reflected light are reflected from light-splitting mirrors (53) having different angles with the beams maintaining a distance equal to the predetermined distance between the sensing portions, and thus the reflected light is split into two optical paths. An electrode-type combination sensor cell (47) having sensing films corresponding to the sample portion and the reference portion is pressed on an adhesive optical interface film (43) disposed on the prism (42), having a refractive index matched with that of the prism (42). Thus, an optical system performing detection in two regions of a single CCD line sensor (56) measures the surface plasmon resonances generated in the sample cell and the reference cell, with optical matching maintained between the sensor, the optical interface film, and the prism.